



[7590-01-P]

## NUCLEAR REGULATORY COMMISSION

[NRC-2012-0146]

### Electrical Cable Test Results and Analysis during Fire Exposure

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Draft NUREG; request for comment.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC or the Commission) is making the proposed draft, NUREG-2128, "Electrical Cable Test Results and Analysis during Fire Exposure (ELECTRA-FIRE), A Consolidation of the Three Major Fire-Induced Circuit and Cable Failure Experiments Performed between 2001 and 2011," available for public comment.

**DATES:** Comments on this document should be submitted by Tuesday, July 31, 2012.

Comments received after that date will be considered to the extent practicable. To ensure efficient and complete comment resolution, comments should include section, page, and line numbers of the document to which the comment applies, if possible.

**ADDRESSES:** You may access information and comment submissions related to this document, which the NRC possesses and are publically available, by searching on <http://www.regulations.gov> under Docket ID **NRC-2012-0146**. You may submit comments by the following methods:

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2012-0146**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-492-3668; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov).

- **Mail comments to:** Cindy Bladey, Chief, Rules, Announcements, and Directives Branch (RADB), Office of Administration, Mail Stop: TWB-05-B01M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

- **Fax comments to:** RADB at 301-492-3446.

For additional direction on accessing information and submitting comments, see “Accessing Information and Submitting Comments” in the **SUPPLEMENTARY INFORMATION** section of this document.

**FOR FURTHER INFORMATION CONTACT:** Gabriel Taylor, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone 301-251-7576; e-mail: [Gabriel.Taylor@nrc.gov](mailto:Gabriel.Taylor@nrc.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. Accessing Information and Submitting Comments**

#### **A. Accessing Information**

Please refer to Docket ID **NRC-2012-0146** when contacting the NRC about the availability of information regarding this document. You may access information related to this document by the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2012-0146**.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**

You may access publicly-available documents online in the NRC Library at

<http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced in this notice (if that document is available in ADAMS) is provided the first time that a document is referenced. The proposed draft NUREG-2128 is available in ADAMS under Accession Number ML12166A028.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

#### B. Submitting Comments

Please include Docket ID **NRC-2012-0146** in the subject line of your comment submission, in order to ensure that the NRC is able to make your comment submission available to the public in this docket.

The NRC cautions you not to include identifying or contact information in comment submissions that you do not want to be publicly disclosed. The NRC posts all comment submissions at <http://www.regulations.gov> as well as entering the comment submissions into ADAMS, and the NRC does not edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information in their comment submissions that they do not want to be publicly disclosed. Your request should

state that the NRC will not edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment submissions into ADAMS.

## **II. Further Information**

Three major test programs have been conducted to realistically explore the electrical functionality of electrical cables under severe fire conditions. The Electric Power Research Institute (EPRI) performed the first series of tests, followed by two confirmatory testing programs sponsored by the Office of Nuclear Regulatory Research. These test programs provided a substantial amount of information concerning the cable electrical response characteristics for common nuclear power plant electrical cable types exposed to severe fire conditions. However, the results from these three test programs have never been collected and analyzed as a whole to obtain insights to specific parameters that may influence the failure modes of electrical cables exposed to fire conditions. This report documents such an effort by identifying circuit parameters that may influence the failure mode of fire damaged electrical cables and then evaluating the test data by circuit parameter. This report also provides an analysis of the direct

current test data specifically looking at the phenomena associated with multiple cable shorts to ground resulting in equipment spurious operation when a common ungrounded power supply is present.

The NRC is seeking public comment in order to receive feedback from the widest range of interested parties and to ensure that all information relevant to the information contained within this document is correct and accurate. This document is issued for comment only and is not intended for interim use. The NRC will review public comments received on the document, incorporate suggested changes as necessary, and make the final NUREG-report available to the public.

Dated at Rockville, Maryland, this 15 day of June 2012.

For the Nuclear Regulatory Commission.

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David W. Stroup, Acting Chief  
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Division of Risk Analysis  
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[FR Doc. 2012-15372 Filed 06/21/2012 at 8:45 am;  
Publication Date: 06/22/2012]